

Appn. No. 10/814,986

Attorney Docket No. 8627-345

I. Listing of Claims

1. (Currently Amended): A self centering delivery catheter for delivery of an expandable intraluminal device into a vessel, the delivery catheter comprising:
 - an outer sheath;
 - a cannula disposed inside the outer sheath and axially translatable relative to the outer sheath;
 - a set of centering legs attached to the cannula, the centering legs being operable between a first retracted position and a second extended position, the centering legs moving radially away from the cannula as the centering legs move from the first position to the second position;
 - the relative position of the outer sheath and cannula controlling operation of the centering legs between the first and second positions;
 - a control wire disposed inside the cannula and axially translatable relative to the cannula; and
 - a release mechanism ~~attached to~~ formed near a distal end of the control wire, the release mechanism structured to engage and disengage the expandable intraluminal device, the release mechanism including a cap formed at a distal end of the cannula, the cap including a bore receiving a cylinder, the cylinder operatively connected to a the control wire, the cap including channels receiving struts of the expandable intraluminal device, the cap and cylinder cooperating to engage the filter, axial translation of the control wire operating the release mechanism to disengage the expandable intraluminal device.

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2. The delivery catheter of claim 1, wherein the centering legs are biased towards the second extended position.
3. The delivery catheter of claim 1, wherein the centering legs are positioned inside the outer sheath in the first retracted position, and wherein the centering legs are positioned outside the outer sheath in the second extended position.
4. The delivery catheter of claim 1, wherein the centering legs are constructed of a memory material.
5. The delivery catheter of claim 1, wherein the free end of each centering leg is atraumatic.
6. The delivery catheter of claim 1, wherein each centering leg has a concave curvature facing the cannula.
7. The delivery catheter of claim 6, wherein each centering leg includes a first end attached to the cannula and a second free end, the second free end having a curvature extending radially away from the cannula.
8. The delivery catheter of claim 1, further comprising a hub circumscribing the cannula, the hub connecting the set of centering legs to the cannula.

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9. The delivery catheter of claim 1, wherein the release mechanism includes a hook formed at the distal end of the control wire.

10. The delivery catheter of claim 1, wherein a distal end of the cannula receives the expandable intraluminal device, and wherein axial translation of the cannula relative to the control wire places the expandable intraluminal device outside of the cannula.

11. The delivery catheter of claim 10, wherein the cannula includes an increased diameter portion sized to receive the expandable intraluminal device and hook.

12. (Cancelled)

13. The delivery catheter of claim 1, wherein axial translation of the control wire positions the cylinder relative to the cap to disengage the filter.

14 - 24 (Cancelled)

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